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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Gary A. JUBB et al.

SERIAL NO.: 08/535,587 GROUP ART UNIT: 1108

FILED: September 28, 1995 EXAMINER: K. Group

FOR: SALINE SOLUBLE INORGANIC FIBER

ATTORNEY DOCKET NO.: M8540/073405

Assistant Commissioner for
Patents
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. § 1.132

Sir:

I, Leonard E. Olds, hereby declare as follows:

1. I received a Met.E. degree in metallurgy and an M.S. degree in physical metallurgy from Colorado School of Mines in 1949 and 1951, respectively.

2. From 1959 to 1969, I was employed by Strategic UDY Process Inc. as a senior engineer conducting research in the area of electric furnaces and their use to process inorganic materials.

3. From 1969 to 1972, I was an Associate Professor at the South Dakota School of Mines teaching undergraduate and graduate courses in metallurgy, including electric furnace processing of inorganic materials.

4. From 1973 to 1975, I was a Senior Process Engineer at the Colorado School of Mines Research Foundation conducting research in melting and fiberizing inorganic materials.

5. From 1975 to 1992, I was employed as Senior Engineer/Senior Research Associate at Manville Corporation, working in fiber technology.

6. Since 1993, I have been a consultant, and frequently consult in areas of technology relating to inorganic fibers, including consulting with Thermal Ceramics Inc., a subsidiary of The Morgan Crucible Company plc.

7. I am a worker of at least ordinary skill in the art of inorganic insulative fibers and their uses.

8. I am a coinventor of U.S. Patent No. 5,332, 699 (hereafter "the '699 patent") and international patent publication WO 87/05007 (hereafter "the '007 publication"), which I understand have been cited as prior art against the invention claimed in the above-identified application.

9. Beginning in about 1983, I conducted an exploratory fiber program designed to prepare a number of different fibers, to test these fibers for various properties, and to identify fibers of potential industrial or commercial interest, in particular, fibers for use in applications requiring fire resistance, such as curtain wall insulation, safing, sound control blankets, fire proofing, and ceiling panels.

10. This exploratory fiber program led to the inventions disclosed in the '699 patent and the '007 publication.

11. Part of this exploratory program involved an evaluation of the fire resistance and maximum service temperatures (i.e., the maximum isothermal temperature at which the fiber exhibited a linear shrinkage of around 5 % or less) for the fibers disclosed in the '699 patent and the '007 publication.

12. The low alumina content fibers evaluated in this exploratory program exhibited maximum service temperatures of around 871 °C or lower.

13. Table 6 of U.S. Patent No. 5,332,699, of which I am a coinventor, shows what would have been expected by a worker of ordinary skill in the art of inorganic fibers at the time that the present invention was made with regard to the effect of alumina content on service temperature, namely that as alumina content increases from 0 %, the service temperature initially decreases, then increases rapidly as the alumina content exceeds the quaternary eutectic point occurring at around 14 % by weight alumina, based on the total weight of the fiber composition.

14. Based upon these evaluations, I would have found it surprising and unexpected that the low alumina content fibers claimed in the above-identified application would exhibit a maximum service temperature greater than around 900 °C.

15. Based upon these evaluations, I would have found it surprising and unexpected that the low alumina content fibers claimed in the above-identified application would exhibit a shrinkage of less than 3.5 % when exposed to a temperature of 1000 °C for 24 hours.

16. Based upon my experience, and in particular my experience with the exploratory fiber testing discussed above, which included both fire testing and shrinkage testing, it is my

conclusion that the fire test data that I obtained would not lead me or anyone else of ordinary skill in the art to expect that shrinkage testing results as low as 5 % could be obtained at 1000 °C, and in fact, my initial shrinkage testing did not support these shrinkage results at such high temperatures.

17. The statements made herein based upon my own knowledge are true, and statements made herein based upon information and belief are believed to be true. Further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issued thereon.

May 9, 1997
Date

Leonard E. Olds